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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,153	07/15/2003	Alan Clarke	7238	8507

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EXAMINER
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BUNIN, ANDREW M

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/620,153

Applicant(s)

CLARKE, ALAN

Examiner

Andrew M. Bunin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 5, 14 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in United Kingdom on 7/17/02. It is noted, however, that applicant has not filed a certified copy of the GB 0216600.7 application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giorgini (US 6401714) in view of Trinkwalder (US 4152848).

Giorgini discloses a self-contained breathing apparatus (10) comprising a hose (54) adapted for connection between a first stage gas pressure regulator (22) to reduce the pressure of gas supplied from a gas supply cylinder (12) to a medium pressure gas, and a second stage gas pressure regulator (40) to reduce the medium pressure gas to a pressure suitable for breathing. Giorgini continues to disclose the first stage regulator (22) comprising a body defining an internal dry chamber (28), an inlet port in the chamber for receiving high pressure gas from a source 12 thereof, a valve assembly 30/26 to reduce the high pressure gas to medium pressure gas in the chamber, and an outlet port (34) for the medium pressure gas as shown in Figure 1. In addition, Giorgini

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discloses an electronically operable pressure sensing module (58-70) contained within the hose to monitor the pressure of said medium pressure gas therein and to transmit an electrical signal representative of the medium pressure gas to an indicator (68/70) housed within the hose and visible to the user. Although Giorgini doesn't explicitly disclose the indicator as providing the pressure of the medium pressure gas, this device is fully capable of performing this task. The sensing chamber 58 measures the pressure of the medium pressure and outputs electrically a visual, audio, or vibratory signal based on this pressure (column 4, lines 46-65) (column 5, lines 19-25).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Giorgini's pressure sensing module in order to output a signal of the pressure of the medium pressure to be viewable so that a user can verify that this device as working properly.

Giorgini does not expressly disclose the sensor being in the first stage. However, Trinkwalder discloses a first stage regulator 14 including a pressure-sensing module 17 (column 2, lines 60-65). The references are analogous since they are from the same field of endeavor, the respiratory arts. At the time the instant application's invention was made, it would have been obvious to one of ordinary skill in the art to have taken the features of Trinkwalder and used them with the device of Giorgini. The suggestion/motivation for doing so would have been because such positioning is a matter of routine choice of design of interchangeable equivalent locations for testing pressure and does not alter the operation of the device. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the

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references to obtain the instant application's claimed invention. Furthermore, rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giorgini and Trinkwalder in view of Readey et al. (US 6003513).

In regards to claim 2, the prior art above teaches everything except the apparatus having a hydrostatic transmitter responsive to an increase in ambient water pressure and adapted to move within the body accordingly to increase the supply of medium pressure gas to the outlet port. However, Readey disclose such (transmitter 270 which transmits the hydrostatic pressure of the valves of the device, hence it's a hydrostatic transmitter). The references are analogous since they are from the same field of endeavor, the respiratory arts. At the time the instant application's invention was made, it would have been obvious to one of ordinary skill in the art to have taken the features of Readey and used them with the suggested device. The suggestion/motivation for doing so would have been to more effectively & efficiently operate the device. Therefore it would have been obvious to combine the references to obtain the instant application's claimed invention. Furthermore such a feature is old & well known in the art.

Claims 3, 4, and 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giorgini, Trinkwalder & Readey as applied to claim 2 above, and further in view of Gray et al. (US 5097826).

In regards to claim 3, the suggested device substantially discloses the instant applications claimed invention, but does not explicitly disclose the use of a strain gauge. However, Gray discloses a pressure-sensing module 22 is connected to a strain gauge 56. A gauge is defined as an instrument for measuring and testing (dictionary.com). The references are analogous since they are from the same field of endeavor, the respiratory arts. At the time the instant application's invention was made, it would have been obvious to one of ordinary skill in the art to have taken the features of Gray and used them with the suggested device. The suggestion/motivation for doing so would have been because the suggested device teaches the use of a pressure sensing means & the use of pressure transducers of the strain type are commonly used in the art to serve as a pressure transducer. Therefore it would have been obvious to combine the references to obtain the instant application's claimed invention. Furthermore such a feature is old & well known in the art.

In regards to claim 4, the suggested device discloses the use of a visual read-out connectable to the pressure sensor means. (See Giorgini 68/70)

In regards to claim 6, the suggested device discloses the use of a pressure sensing module comprising a printed circuit board to which is connected a light emitting diode which is an interchangeable equivalent to a liquid crystal display.

In regards to claim 7, the suggested device of the rejections to claims 1-3 & 6 is herein incorporated by reference as the suggested device discloses the pressure sensing module comprising a printed circuit board to which is connected a liquid crystal display, the monitoring means is a strain gauge and the pressure sensing module is

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connected electrically to the strain gauge but does not expressly disclose a conductor passing along the hydrostatic transmitter whereby the strain gauge and pressure sensing module are mounted on opposed ends thereof respectively. It is noted that applicant's specification does not set forth this arrangement, as unexpectedly providing any new result or unexpectedly solving any new problem in the art over the prior art. Accordingly, the examiner considers the selection of such to be a mere obvious matter of design choice and as such does not patentably distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary. Furthermore, such an arrangement is old and well known in the art.

In regards to claim 8, the suggested device discloses a battery (66) connected to the pressure-sensing module (58-70) but the references noted above do not disclose a transparent removable cover to protect the electrical circuitry of the module. It is noted that applicant's specification does not set forth this feature, as unexpectedly providing any new result or unexpectedly solving any new problem in the art over the prior art. Accordingly, the examiner considers the selection of such to be a mere obvious matter of design choice and as such does not patentably distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary.

In regards to claim 9, the references noted above substantially disclose the claimed invention except for the removable cover including a magnifier. It is noted that applicant's specification does not set forth this feature, as unexpectedly providing any new result or unexpectedly solving any new problem in the art over the prior art. Accordingly, the examiner considers the selection of such to be a mere obvious matter



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of design choice and as such does not patently distinguish the claims over the prior art, barring a convincing showing of evidence to the contrary.

In regards to claim 10, the suggested device discloses the pressure-sensing module including electronic circuitry (64/66) that is fully capable of deactivating the indicator after an initial period of indication.

In regards to claim 11, the suggested device is fully capable of indicating the present date.

In regards to claim 12, the suggested device is fully capable of indicating the period when a service is due.

In regards to claim 13, the suggested device is fully capable of indicating real time.

### ***Response to Arguments***

Applicant's arguments filed 5/26/05 have been fully considered but they are not persuasive. Although Giorgini discloses a warning system that alerts the diver of the depletion of the air supply, the sensing chamber has a sensing piston 60 that responds to pressure causing it to move one direction or the other. This movement is signaled to an alarm circuit depending on the pressure. Therefore, the device inherently teaches a sensor that is measuring/checking the medium pressure gas from first stage regulator. Additionally, since the sensor is responding/measuring the medium pressure gas, the device is fully capable of providing a reading of the medium pressure gas as well as the condition of the first stage regulator as gas flows through the sensing chamber. The



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device of Giorgini is further capable of checking that the first stage regulator is functioning correctly based on the pressure measurement.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 6095142, 6054929, 5899204, 5806514, 5357242, 5191317, 5097826, 4938211, 4674492, 4498471, 4350115, 4275723, 4141353, 3957044, 3719160, 3670575

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Bunin whose telephone number is (571)272-4801. The examiner can normally be reached on Monday - Friday, 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (571)272-4791. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
AMB  
8/02/05

  
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